

人工智能 -- 机器学习

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-- 机器学习与深度学习

AI A Modern Approach 机器学习与深度学习 Nature Magazine AlphaGo Zero paper 机器学习与深度学习 [1]

机器学习 AlphaGo 机器学习与深度学习 leukotomy 机器学习与深度学习 机器学习

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机器学习与深度学习

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机器学习与深度学习 talent pool 机器学习与深度学习

机器学习与深度学习

Karl Raimund Popper 机器学习与深度学习

Marvin Minsky The Emotion Machine 机器学习与深度学习 emotion animal liberal arts mathematics sciences 机器学习与深度学习

机器学习 AI: A Modern Approach 机器学习与深度学习

Marvin Minsky The Emotion Machine AlphaGo Zero paper 机器学习与深度学习 superhuman 机器学习与深度学习 superhuman 机器学习与深度学习

机器学习与深度学习

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liberal arts/natural languages / philosophies

AlphaGo

Deepmind 4 [4]

AlphaGo Master 三星棋院 AlphaGo Master 三星棋院 AlphaGo Master 三星棋院
AlphaGo Zero 三星棋院 AlphaGo Master 三星棋院 AlphaGo Master 三星棋院

AlphaGo Zero が AlphaGo Master を破った[5]。AlphaGo Master は 16 該当で AlphaGo Zero が 18 該当。AlphaGo Zero が 14-16-45 の成績を記録した。

11 Nature Magazime 『AlphaGo』Deepmind 『AlphaGo Zero』AlphaGo Master 『AlphaGo SuperMaster』

2) AlphaGo Zero یک local trap را در میان اینها باز کرد. AlphaGo Zero یک local trap را در میان اینها باز کرد. AlphaGo Zero یک local trap را در میان اینها باز کرد. AlphaGo Zero یک local trap را در میان اینها باز کرد.

AlphaGo Zero 7 game

Superhuman چیزی که این را می‌داند Clock چیزی که IBM S/360 چیزی که
آن را می‌داند AlphaGo Zero چیزی که superhuman IBM S/360 چیزی که superhuman
آن را می‌داند AlphaGo Zero چیزی که Nature Magazine چیزی که AlphaGo Zero paper چیزی که
superhuman چیزی که آن را می‌داند

超人級人工智能 Technological Singularity
Demis Hassabis AlphaGo

AlphaGo 深度学习 Deepmind team

AlphaGo Zero AlphaGo Zero superhuman [8] superhuman superhuman superhuman deep-learning reinforcement superhuman superhuman

AlphaGo AlphaGo [9]

图灵机 Turing Machine ⊞ deep-learning ⊞ AlphaGo ⊞ 神经网络神经元
AlphaGo Zero ⊞ AlphaGo Master ⊞ AlphaGo Zero ⊞ AlphaGo Zero ⊞

Deep-learning 机器学习 深度学习 人工智能 credit 信用 reinforcement learning 强化学习 local trap 局部陷阱 AlphaGo 阿尔法围棋

[11]

[12]

图灵机 Turing Machine 图灵完备性 Turing completeness
图灵机 Turing Machine local trap Universal approximation

_____Socratic method _____

Alan Turing Geoffrey Hinton Demis Hassabis AlphaGo

Demis Hassabis 『AlphaGo』 [13] Geoffrey Hinton

Turing Machine Turing Machine Geoffrey Hinton Turing Machine Alan Turing

Dialogue Concerning the Two Chief World Systems [14]

Socratic method [15]

The Sceptical of Chemist

On the Origin of Species

[16]

Leukotomy BRAIN Initiative

Leukotomy

personalities mental diseases personalities BRAIN Initiative project

[17]

Leukotomy BRAIN Initiative

Leukotomy

1 personalities mental diseases personalities BRAIN Initiative project

2 leukotomy Leukotomy BRAIN Initiative AlphaGo

3 personality intelligence Walter Freeman personality intelligence

BRAIN Initiative project NIH BRAIN 2025 Report “there is general agreement that types can be defined provisionally by invariant and generally intrinsic properties” invariant agreement

insights“envision an integrated, systematic census of neuronal and glial cell types”dynamic brain mapping “Link brain activity to behavior”“Produce conceptual foundations for understanding the biological basis of mental processes”mental processes behavior

BRAIN Initiative project personality intelligence brain mapping personality intelligence hidden assumptions

personality intelligence

BRAIN Initiative project brain mapping mental diseases personality intelligence personality intelligence leukotomy

leukotomy AlphaGo generic human intelligence

personality intelligence mental diseases

BRAIN Initiative brain mapping human level intelligence personalitiesintelligence mental diseases BRAIN Initiative neurosciences AlphaGo generic human intelligence AlphaGo neurosciences [18]

AlphaGo

AlphaGo Master AlphaGo Zero AlphaGo Zero AlphaGo Zero AlphaGo Master AlphaGo Master AlphaGo

AlphaGo

Technological Singularity BRAIN Initiative project Technological Singularity baseless

AlphaGo Zero achieved superhuman performance Demis Hassabis AlphaGo

AlphaGo Zero achieved superhuman performance Demis Hassabis AlphaGo

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[1] AI/A Modern Approach  
“Aristotle... was the first to formulate a precise set of laws governing the rational part of the mind.”  
precise AI wind tunnel approach AI the underlying principles and forces of flight Neurosciences human level intelligence AI

AlphaGo Zero Nature paper AI AlphaGo Zero human intelligence

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[2] Technological Singularity AlphaGo Zero superhuman

[3] 1950s-1960s
1970s-1980s
1990s-2000s
2010s-2020s

1997.6.11 - 1997.6.12
+ 1997.6.13 - 1997.6.14

Gödel's theorems suggest metaphysics from humans may not work

1819 Ferdinand Karl Schweikart
1830

1830

1830

1819 Ferdinand Karl Schweikart
1830

1830

[4] 『Cracking Go』 Deep Blue AlphaGo AlphaGo

[5] <http://www.alphago-games.com/> AlphaGo Zero AlphaGo Zero <https://www.101weiqi.com/chessbook/player/38348/>

[6] AlphaGo Master 中国棋院AlphaGo Master 中国棋院

[7] 2016年AlphaGo战胜围棋世界冠军，成为全球首个超越人类的“superhuman”棋手。AlphaGo是围棋人工智能。

『AlphaGo』と『Crazy Stone』の対戦結果

Google/Deepmind AlphaGo

[8] <http://www.alphago-games.com/> Full Strength of Alphago Zero, i.e. Final Form
40 Blocks 20 Blocks Not Full Strength of Alphago Zero
Alphago Zero superhuman

二、 人机对弈

[10] 陈天奇：“Go gaming is strictly defined within a very small space. Industrial automations are typically designed in well controlled environments, but not strictly defined. Car driving is regulated, but the environment is not well controlled”

人机对弈是严格定义在非常小的空间内，工业自动化通常设计在受控环境中，但不是严格定义的。汽车驾驶受到监管，但环境不受良好控制。

[11] 陈天奇：“AlphaGo Master和李世石对弈时，AlphaGo先手，李世石后手，AlphaGo胜出。”

[12] 陈天奇：“AlphaGo Master和樊麾对弈时，AlphaGo先手，樊麾后手，AlphaGo胜出。”

人机对弈是严格定义在非常小的空间内，AlphaGo 先手，樊麾后手，AlphaGo 胜出。

[13] 陈天奇：“AlphaGo Master和樊麾对弈时，AlphaGo先手，樊麾后手，AlphaGo胜出。”

[14] Dialogue Concerning the Two Chief Word Systems
Socratic Method
人机对弈是严格定义在非常小的空间内，Socratic Method 先手，人机对弈胜出。

人机对弈是严格定义在非常小的空间内，AlphaGo 先手，人机对弈胜出。

人机对弈是严格定义在非常小的空间内，人机对弈胜出。

人机对弈是严格定义在非常小的空间内，人机对弈胜出。

[15] 陈天奇：“AlphaGo 和樊麾对弈时，AlphaGo先手，樊麾后手，AlphaGo胜出。”

人机对弈是严格定义在非常小的空间内，AlphaGo 先手，樊麾后手，AlphaGo胜出。

人机对弈是严格定义在非常小的空间内，人机对弈胜出。

我認為我沒有越過科學和宗教的邊界；哥德爾的定理顯示人類的形而上學可能不會起作用。

[18] AlphaGo AlphaGo